

Restoring Fish Passage at the Henry Ford Estate Dam



In partnership with:



Approximately \$256,000 in grant funds provided by the Great Lakes Restoration Initiative (GLRI) through the National Oceanic and Atmospheric Administration (NOAA) for design. Implementation was funded through a portion of an almost \$8.7M U.S. Environmental Protection Agency (EPA) GLRI grant received by Wayne County.

The Henry Ford Estate Dam Fishway project will:

- Positively impact 43.5 main river and 123 tributary miles for fish migration on three branches of the Rouge River, the Upper, Middle and Main.
- Increase aquatic diversity throughout the Rouge River for fish species, macroinvertebrates, mussels and other aquatic life.

Wayne County, partnered with the Alliance of Rouge Communities (ARC), received grant funding from the GLRI EPA for the Henry Ford Estate Dam (HFE Dam) Fish Passage and Habitat Restoration Implementation project as part of its effort to delist the Rouge River Area of Concern (AOC). Providing fish passage at the HFE Dam has been identified by the Rouge River Advisory Council (RRAC) as one of the highest priority projects within the watershed to address the habitat and population BUIs within the AOC. Additionally, providing fish passage at the HFE Dam has been identified, since 1998, by the Michigan Department of Natural Resources (MDNR) – Fisheries Division as one of the priority projects (MDNR Fisheries Special Report Number 22 titled “Rouge River Assessment,” by Beam and Braunscheidel, 1998). Efforts to remove additional barriers to the fish in the Rouge River AOC, including the GLRI NOAA-funded Wayne Road Dam on the Rouge Lower Branch and the GLRI-funded Danvers Pond Dam on the Upper Rouge, are completed.

The HFE dam, part of a National Historic Landmark, is located 8 miles upstream of the Rouge River’s confluence with the Detroit River. In the early 1900’s Henry Ford built the dam and powerhouse to generate electric power. Mr. Ford hired Jens Jensen, a renowned landscape architect, to develop garden designs and ultimately a master landscape plan for Fair Lane, which included the dam. It is the first dam on the 127-long Rouge River upstream of the Detroit River and the Great Lakes system. This project has a positive impact on an estimated 43.5 river miles and 123 miles of tributary stream for fish migration and reconnection to the Great Lakes. The fishway channel itself is a natural channel with riffles and pools. It is constructed of stone and cobble material to look natural in appearance. The banks of the new channel are planted with a variety of grasses, forbs and trees to establish native vegetation. The downstream end opens directly into the Rouge River with no control structure or culvert. Both the MDNR – Fisheries Division and the Michigan Department of Environment, Great Lakes and Energy (EGLE) have recommended this as the most prudent and feasible alternative for fish passage.



Aerial of HFE Dam before restoration



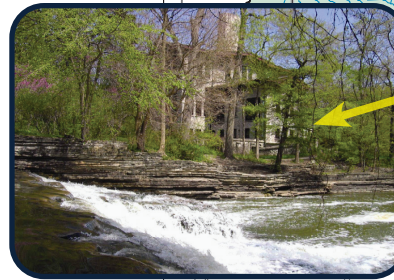
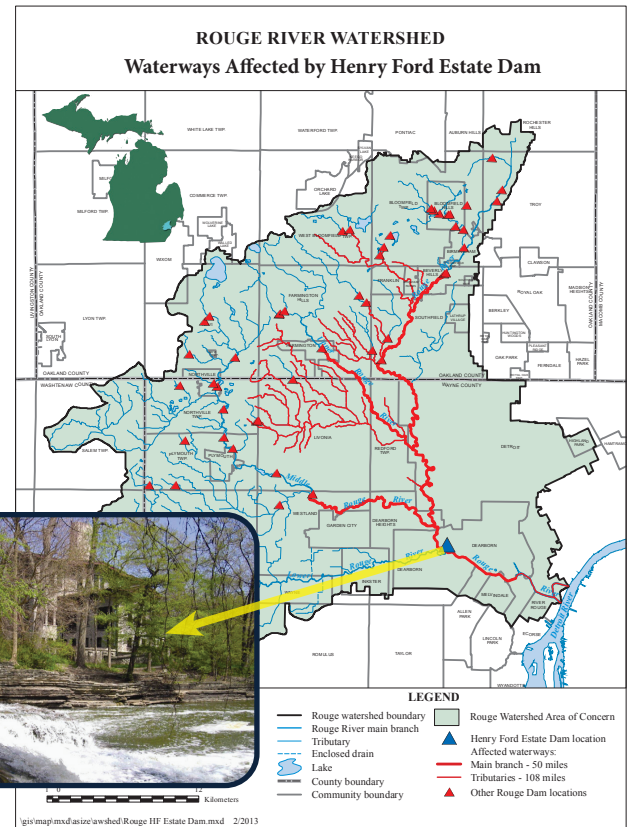
Aerial of HFE Dam and fishway after restoration

History of the Project

The ARC developed the plans, specifications and permit to allow for this recommended fishway around the dam with a GLRI NOAA grant. Construction began in 2018 under an EPA GLRI grant to Wayne County Grant (Grant # GL-00E02040).

Design Elements

- Channel slope of approximately 0.8%.
- Channel length of 850 feet.
- 20-foot wide, fishway channel with a two-stage flood channel.
- Optimized passage characteristics (depth, velocity, discharge) during the spring migration season (March through May).
- Contain quality aquatic habitat for wildlife, aquatic insects, crayfish, & fish.
- The fishway channel constructed of stone and cobble to roughen the channel and creates a naturalized appearance.
- A series of riffles and pools are used to create deep water habitat, shorten high velocity flow fields, dissipate energy, and increase habitat diversity.
- The fishway channel banks and floodway over-bank areas and slopes are planted with a variety of grasses, forbs, shrubs, and trees to establish native vegetation that provides habitat, shades the fishway, stabilizes the banks, and reduces flow velocity.



Construction of fishway begins.



Logs are placed to create habitat in the riffles and pools.



In the background of this photo the Henry Ford Estate and the historic Jens Jensen designed dam can be seen with the fishway passage in the foreground.



Water flowing downstream in fishway.

The ARC is a 501(c)(3) non-profit organization consisting of local municipalities, counties, educational institutions and stewardship groups working together to improve the Rouge River. Founded in 2005, the ARC is funded by membership dues from local governments and supported by grants. The ARC and its partners work cooperatively to meet water quality requirements mandated by the state's storm water permit and to restore beneficial uses, such as canoeing, fishing and other recreational activities, to the Rouge River. That means better water quality for less cost to its members!

For more information about other ARC activities visit our website at:
www.allianceofrougecommunities.com

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